

### REMARKS

The Examiner rejected claims 23-25, 28-41, 43-44, and 46-57 on various grounds. The Applicants note with appreciation the Examiner's indication that claims 26, 27, 42, and 45 contain allowable subject matter.

#### **I. THE REJECTION OF CLAIM 23**

Claim 23 was rejected as anticipated by *Zadraba*, *Nguyen*, *Coates*, and *Swadi*. None of these references, however, anticipate amended claim 23.

Claim 23 now recites an increasing area between the nozzle boss and the mud ramp, and requires the mud ramp to be from 10 degrees to 80 degrees from the longitudinal axis. Support for these amendments is believed to be found in the application at least at 18, lines 20 to 21. *See also* page 18, line 22 to page 19, line 4; page 17, lines 14 to 16; and page 18, line 16-17. Support for the angular limitation may be found at page 16, line 6.

Amended claim 23 distinguishes *Zapadra* at least because the area between what the Examiner considers his mud ramp and the nozzle does not increase, and may be decreasing:

This lower portion of flow channel 55 is of substantially uniform cross-section. Flow channel 55 has an upper section that is parallel with the upper portion of leading edge 25. The upper portion has slightly less width than the lower portion. However, there is no significant reduction in flow area when proceeding from the lower portion to the upper portion of flow channel 55.

*Zapadra*, col. 3, ll. 54 - 60.

*Nguyen* does not anticipate claim 23. Although the Examiner may believe that "mud ramp" 48 is at an angle to the longitudinal axis, *Nguyen* specifically teaches that the recessed channel 48 extends "longitudinally" between shirrtail portions of the bit body. Consequently, *Nguyen* does not anticipate claim 23, which requires the mud flow ramp to be at an angle to the longitudinal axis.

*Coates* can not anticipate claim 23. *Coates* relates to an air circulation type rock bit (col. 1, lines 16 to 17). Claim 23 explicitly requires a *mud* flow ramp. As explained by *Coates*, air circulation type rock bits and those that use drilling mud are very different in their downhole behavior with respect to cuttings.

*Swadi* does not anticipate claim 23. Claim 23 requires that the junk slot be defined in part by the drill bit body. Therefore, judging from Figure 1 of *Swadi* on which the Examiner relies, the junk slot does not begin until the line between the nozzle boss and the leg. It does not appear that

the angle of the "mud ramp" of *Swadi* is between 10 and 80 degrees from the longitudinal axis, as required by claim 23.

Allowance of claim 23 is respectfully requested.

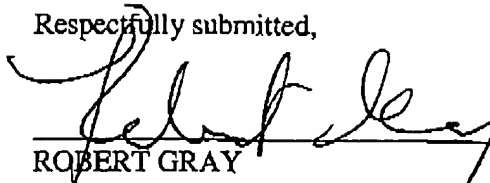
**II. THE 35 U.S.C. 112, SECOND REJECTION OF CLAIMS 32, 40, AND 43**

The Examiner rejected claims 32, 40 and 43 for failing to define the terms "fillet", "revolved" and "backturned", making the claims unclear. Applicants submit that these terms are intended to have their well-known meanings, known to those of ordinary skill in the art.

**III. CONCLUSION**

Allowance of the pending claims is respectfully sought. The Applicants do not believe any fees are required but if fees are required, the Director is authorized to charge any fees to Deposit 03-2679, Conley Rose, P.C. If the Examiner has any questions or requests, he is invited to contact the undersigned.

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